General

Guideline Title

Subluxation chiropractic practice.

Bibliographic Source(s)

Council on Chiropractic Practice. Subluxation chiropractic practice. 4th ed. Temecula (CA): Council on Chiropractic Practice; 2013. 215 p. [2766 references]

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Council on Chiropractic Practice. Vertebral subluxation in chiropractic practice. Chandler (AZ): Council on Chiropractic Practice; 2008. 318 p.

Recommendations

Major Recommendations

Note from Council on Chiropractic Practice (CCP): This document contains the changes, additions and revisions to the 2013 Council on Chiropractic Practice Clinical Guideline Number 4. Subluxation Chiropractic Practice and is organized in the following manner: If changes to a Recommendation have been made, these are listed and discussed. If additional literature on the topic was found and reviewed, then these references are listed (see the "References Supporting the Recommendations" field). If a Recommendation was added that was not included in the 2008 Guidelines, this is noted. If a Recommendation remains as it did in the 2008 guidelines a simple statement that the Recommendation remains "unchanged" follows that section/topic.

The most significant change to the guidelines in 2013 is the change to the definition of subluxation: "Subluxation is a neurological imbalance or distortion in the body associated with adverse physiological responses and/or structural changes, which may become persistent and progressive. The most frequent site for the chiropractic correction of subluxation is via the vertebral column."

Definitions of the ratings and categories of evidence are provided at the end of the "Major Recommendations" field.

History and Chiropractic Examination

Case History

Recommendation (Unchanged)

Recommendation (Unchanged)
A thorough case history should precede the initiation of chiropractic care. The elements of this history should include general information, reason for seeking chiropractic care, onset and duration of any symptomatic problem, family history, past health history, occupational history, and social history.
Rating: Established *Evidence*: E, L

Chiropractic Examination

Recommendation (Unchanged)
The initial chiropractic examination shall include a case history and an assessment for the presence of vertebral subluxation, which, if present, is to be noted with regard to location and character. A review of systems may be conducted at the discretion of the practitioner, consistent with individual training and applicable state laws. Reassessments may be conducted periodically throughout a course of chiropractic care to assess patient progress. Such reassessments typically emphasize re-examination of findings which were positive on the previous examination, although need not be limited to same. Reassessment is also indicated in the case of trauma or change in the clinical status of a patient.
Rating: Established *Evidence*: E, L

Instrumentation

Recommendation (Unchanged)
Instrumentation is indicated for the qualitative and/or quantitative assessment of the biomechanical and physiological components of subluxation. When using instrumentation, baseline values should be determined prior to the initiation of care.
Rating: Established *Evidence*: E, L

Postural Analysis

Sub-recommendation (Unchanged)
Postural analysis using plumb line devices, computerized and non-computerized instruments may be used to evaluate changes in posture associated with subluxation.
Rating: Established *Evidence*: E, L

Bilateral and Four-quadrant Weight Scales

Sub-recommendation (Unchanged)
Bilateral and four-quadrant weight scales may be used to determine the weight distribution asymmetries indicative of spinal abnormalities.
Rating: Established *Evidence*: E, L

Moire Contourography

Sub-recommendation (Unchanged)
Moire contourography may be used to provide a photographic record of changes in body contour associated with subluxation.
Rating: Established *Evidence*: E, L

Inclinometry

Sub-recommendation (Unchanged)
Inclinometry may be used as a means of measuring motion against a constant vertical component of gravity as a reference. Changes in ranges of spinal motion may be associated with subluxation.
Rating: Established *Evidence*: E, L

Goniometry

Sub-recommendation (Unchanged)
Goniometry, computer associated or not, may be used to measure joint motion. Inclinometry is superior to goniometry when standardized procedures are employed.
Rating: Established *Evidence*: E, L

Algometry

Sub-recommendation (Unchanged)
Algometry may be used to measure pressure-pain threshold. Changes in sensory function associated with subluxation may produce changes in pressure-pain thresholds.
Rating: Established *Evidence*: E, L

Current Perception Threshold (CPT) Testing

Sub-recommendation (Unchanged)
CPT devices may be used for the quantitative assessment of sensory nerve function. Alterations in sensory nerve function may be associated with subluxation.
Rating: Established *Evidence*: E, L

Electroencephalography (EEG)

Sub-recommendation (Unchanged)
EEG techniques including brain mapping and spectral analysis may be used to assess the effects of subluxation and chiropractic adjustment associated with brain function.
Rating: Established

Evidence: E, L *Sub-recommendation (Unchanged)*

Somatosensory Evoked Potentials (SSEPs)

Sub-recommendation (Unchanged)
SSEPs may be used for localizing neurological dysfunction associated with subluxations.
Rating: Established *Evidence*: E, L

Skin Temperature Instrumentation

Sub-recommendation (Unchanged)
Temperature reading devices employing thermocouples, infrared (IR) thermometry, or thermography (liquid crystal, telethermography, multiple IR detectors, etc.) may be used to detect temperature changes in spinal, paraspinal and extremity tissues related to subluxation.
Rating: Established *Evidence*: E, L

Surface Electromyography

Sub-recommendation (Unchanged)
Surface electrode electromyography, using hand-held electrodes or affixed electrodes, may be used for recording changes in the electrical activity of muscles associated with subluxation.
Rating: Established *Evidence*: E, L, C

Manual Muscle Testing

Sub-recommendation (Changed)
Manual muscle testing may be used to determine bilateral differences or other differences in patient resistance. These differences may be characterized by the experienced examiner based on various technologies. Manual, mechanized and computerized muscle testing may be used to determine changes in the strength and other characteristics of muscles. These changes may be a result of alterations of function at various levels of the neuromuscular system and/or any other system related to the patient. Such changes may be associated with subluxation. For proper manual muscle testing procedure refer to Kendall et al., 2005 and Morrison, 2012.
Rating: Established *Evidence*: E, L, C

Questionnaires

Sub-recommendation (Unchanged)
Questionnaires may be used in the assessment of the performance of activities of daily living, pain perception, patient satisfaction, general health outcomes, patient perception outcomes, mental health outcomes, and overall quality of life, throughout a course of chiropractic care. Questionnaires provide important information, but should not be used as a substitute for physical indicators of the presence and character of subluxation.
Rating: Established *Evidence*: E, L

Heart Rate Variability

Sub-recommendation (Unchanged)
Heart rate variability may be used to assess autonomic dysfunction associated with subluxation.
Rating: Established *Evidence*: E, L

Computer Assisted Differential Spinal Compliance

Sub-recommendation (Unchanged)
Computer assisted differential spinal compliance instruments may be used to assess changes in spinal and paraspinal tissue compliance associated with subluxation.
Rating: Established *Evidence*: E, L

Radiographic and Other Imaging

Recommendation (Changed)
Diagnostic imaging procedures may be utilized to characterize the biomedical manifestations of subluxation, and to determine the presence of conditions which affect the safety and appropriateness of chiropractic care. The only change to the 2013 Guidelines is the acknowledgement of the Practicing Chiropractors' Committee on Radiology Protocols ("Practicing Chiropractors' Committee on Radiology Protocols," 2006). The CCP feels that any further discussion in the use of Radiology and other imaging is better advised to refer to the PCCRP Guidelines as the standard regarding chiropractic subluxation and clinical radiology.
Rating: Established *Evidence*: E, L

Plain Film Radiography

Sub-recommendation (Unchanged)
Plain film radiography is indicated: to provide information concerning the structural integrity of the spine, skull and pelvis; the misalignment component of subluxation; the foraminal alteration component of subluxation; and the postural status of the spinal column. Imaging procedures, including post-adjustment radiography, should be performed only when clinically necessary. It is common for lines of mensuration to be drawn on the radiographs to assess subluxation and alignment. These procedures may be done by hand, or the chiropractor may utilize computerized radiographic digitization procedures.
Rating: Established *Evidence*: E, L

Dosage and Shielding

Sub-recommendation (Unchanged)
Imaging procedures employing ionizing radiation should be performed consistent with the principles of obtaining films of high quality with minimal radiation. This may include the use of gonad shielding, compensating filters, and appropriate film-screen combinations.
Rating: Established *Evidence*: E, L

Videofluoroscopy

Sub-recommendation (Unchanged)
Videofluoroscopy may be employed to provide motion views of the spine when abnormal motion patterns are clinically suspected. Videofluoroscopy may be valuable in detecting and characterizing spinal kinesiopathology associated with subluxation.
Rating: Established *Evidence*: E, L

Magnetic Resonance (MR) Imaging

Sub-recommendation (Unchanged)
MR imaging may be employed to assess suspected neoplastic, infectious, and degenerative conditions of the spine and related tissues as well as the stages of subluxation degeneration. Its use is generally restricted to instances where the desired information cannot be obtained by less costly procedures.
Rating: Established *Evidence*: E, L

Computed Tomography (CT)

Sub-recommendation (Unchanged)
CT imaging may be employed to assess osseous and soft tissue pathology in the spine and contiguous tissues. Its use is generally restricted to instances where the desired information cannot be obtained by less costly procedures.
Rating: Established *Evidence*: E, L

Spinal Ultrasonography

Sub-recommendation (Unchanged)
Spinal ultrasonography may be used to evaluate the size of the spinal canal (SC) and to detect pathologies in the soft tissues surrounding the spine. Its applications in the assessment of the facet inflammation and nerve root inflammation remain investigational at this time.
Rating: Established (SC size); Investigational (inflammation) *Evidence*: E, L (SC size); E, L (inflammation)

Radioisotope Scanning (Nuclear Medicine Studies)

Sub-recommendation (Unchanged)
Radioisotope scans performed by qualified medical personnel may be used by a chiropractor to determine the extent and distribution of pathological processes which may affect the safety and appropriateness of chiropractic care when this information cannot be obtained by less invasive means.
Rating: Established *Evidence*: E, L

Radiographic Digitizing Analysis

Sub-recommendation (Unchanged)
Computerized x-ray analysis may be used by chiropractors to objectively analyze the biomechanical and misalignment improprieties related to subluxation. Clinical necessity is justified for assessing the degree of insult and the effect upon the patient's health and future well-being by way of impairment rating.
Rating: Established *Evidence*: E, L

Clinical Impression and Assessment

Recommendation (Changed)
Practitioners should develop a method of patient assessment which includes a sufficient diversity of findings to support the clinical impression as related to subluxation (Leboeuf et al., 1989; Mior, McGregor, & Schut, 1990; Rhudy, Sandefur, & Burk, 1988; Sandefur, 1989; Upledger, 1977; Damron, 1991; Plaugher, Cremata, & Phillips, 1990; Terrett, 1990; Adair, Vanwijk, & Armstrong, 1977; Ardran et al., 1980; Osterbauer, Fuhr, & Hildebrandt, 1992; Rosen, 1991; Burke et al., 1994; Fischer, 1986; Fischer, 1987; Hospers et al., 1987; Jansen, Nansel, & Slosberg, 1990; Wagnon, 1991; La Francis, 1990; Whittingham, Ellis, & Molyneux, 1994; Hsieh & Pringle, 1994; Lea & Gerhardt, 1995; Nilsson, 1995; Williamson, 1990). In this regard, it is considered inappropriate to render an opinion regarding the appropriateness of chiropractic care without a chiropractic assessment, including a physical examination of the patient by a licensed chiropractor. When management of patient care is carried out in the collaborative setting, the chiropractor as a primary contact health care provider is the only professional qualified to determine the appropriateness of chiropractic care. The unique role of the chiropractor is separate from other health disciplines (Leach, 1986; Palmer, 1910; Palmer, 1920; Jamison, 1989; Janse, 1979; Ressel, 1986; Schneier & Burns, 1991; Vear, 1974; Webster, 1989; Sawyer, Bergmann, & Good, 1988; "Seventh report to the president & Congress on the status of health personnel," 1990), and should be clarified for both the patient and other practitioners. The patient assessment, specific to the technique practiced by the chiropractor (Souza, 1994; McCarthy, 1994; Deyo, Rainville, & Kent, 1992; Walsh, 1998; van den Hoogen et al., 1995; Potter & Rothstein, 1985; Maigne, Aivaliklis, & Pfefer, 1996; Cote et al., 1996; Terrett, 1996; Wheeler, 1998; Barge, "Diagnosis--is there a middle ground," 1998; Barge, "Diagnosis and responsible doctoring," 1998; McMillin, 1998; Caputo, Cusimano, & Steiman, 1997; Injeyan, Gotlib, & Crawford, 1997), should minimally include a biomechanical and neurophysiological component. It is inappropriate to make a retrospective determination of the clinical need for care rendered prior to the assessment.
Rating: Established *Evidence*: E, L

Record Keeping

Sub-recommendation (Unchanged)
Since record-keeping practices may be technique/method specific and may depend on the practice objective of the practitioner, chiropractors should develop a method of reporting the care they provide to their patients that is consistent with their practice objectives. Record keeping systems for practitioners who limit their care to the analysis and correction of subluxation should minimally reflect the segments/regions adjusted and the techniques or methods employed if they are not self-evident. Other pertinent information may be included on an as needed basis. *This sub-recommendation is in no way meant to contradict other recommendations made in these Guidelines that address issues related to Outcome Assessment, History and Examination, Duration of Care, and Instrumentation.
Rating: Established *Evidence*: E, L

Reassessment and Outcomes Assessment

Recommendation (Unchanged)
Determination of the patient's progress must be made on a per-visit and periodic basis. This process provides quantitative and qualitative information regarding the patient's progress, which is utilized to determine the frequency and duration of chiropractic care. Per-visit

Recommendation (Unchanged)
reassessment should include at least one analytical procedure previously used. This chosen testing procedure should be performed each time the patient receives chiropractic care. Concomitant with this process, the effectiveness of patient care may also be monitored through the development of an outcomes assessment plan. Such a plan may utilize data from the patient examination, assessment, and reassessment procedures. Patient-reported quality of life instruments, mental health surveys, and general health surveys are encouraged as part of the outcomes assessment plan. The analysis of data from these sources may be used to change or support continuation of a particular regimen of patient care and/or change or continue the operational procedures of the practice.
Rating: Established *Evidence*: E, L

Modes of Adjustive Care

Recommendation (Unchanged)
Adjusting procedures should be selected which are determined by the practitioner to be safe and effective for the individual patient. No mode of care should be used which has been demonstrated by critical scientific study and field experience to be unsafe or ineffective in the correction of subluxation.
Rating: Established *Evidence*: E, L

Duration of Care for Correction of Subluxation

Recommendation (Unchanged)
Since the duration of care for correction of subluxation is patient specific, frequency of visits should be based upon the reduction and eventual resolution of indicators of subluxation. Since neither the scientific nor clinical literature provides any compelling evidence that substantiates or correlates any specific time period for the correction of subluxation, this recommendation has several components which are expressed as follows: a. Based on the variety of assessments utilized in the chiropractic profession, the quantity of indicators may vary, thus affecting the periodicity of their appearance and disappearance, which is tantamount to correction of subluxation. b. Subluxation, not being a singular episodic event such as a strain or sprain, may be corrected but reappear, which necessitates careful monitoring and results in a wide variation in the number of adjustments required to affect a longer-term correction. c. Based on the integrity of the spine in terms of degree and extent of degeneration, the frequency of assessments, and the necessity for corrective adjustments, may vary considerably. d. Because the duration of care is being considered relative to the correction of subluxation, it is independent of clinical manifestations of specific dysfunctions, diseases, or syndromes. Treatment protocols and duration of care for these conditions are addressed in other guidelines, which may be appropriate for any practitioner whose clinical interests include alleviation of such conditions.
Rating: Established *Evidence*: E, L

Chiropractic Care of Children

Recommendation (Unchanged)
Since subluxation may affect individuals at any age, chiropractic care may be indicated at any time after birth. As with any age group, however, care must be taken to select adjustment methods most appropriate to the patient's stage of development and overall spinal integrity. Parental education by the subluxation-centered chiropractor concerning the importance of evaluating children for the presence of subluxation is encouraged.

Recommendation (Unchanged)
Rating: Established *Evidence*: E, L

Maternal Chiropractic Care

Recommendation (Unchanged)
In pregnancy a woman's body experiences numerous biomechanical adaptations and physiological changes. These changes often have an adverse effect on her neuro-musculo-skeletal system affecting quality of life in pregnancy, birth outcome, and the future well-being of her baby. Because of these physiological compensations, practitioner care must be taken to select the specific analysis and adjustment most appropriate for the complex changes throughout the various stages of pregnancy. The increased potentials for spinal instability in the mother and the resulting subluxations in the woman's spine throughout pregnancy affect the health and well-being of both her and her baby. This warrants regular chiropractic check-ups in all women throughout pregnancy. Patient education pertinent to chiropractic care in pregnancy is encouraged.
Rating: Established *Evidence*: E, L

Subluxation and Well-being

Recommendation (Unchanged)
"Doctors of Chiropractic advise and educate patients and communities in structural and spinal hygiene and healthful living practices" (Association of Chiropractic Colleges, 1996). "Doctors of Chiropractic establish a doctor/patient relationship and utilize adjustive and other clinical procedures unique to the chiropractic discipline. Doctors of Chiropractic may also use other conservative patient care procedures, and, when appropriate, collaborate with and/or refer to other health care providers" (Association of Chiropractic Colleges, 1996).
Rating: Established *Evidence*: E, L

Behavioral and Mental Health Issues

Recommendation (Unchanged)
Chiropractic is not a treatment for specific behavioral or mental health conditions. However, chiropractic care is established as a clinical strategy that may improve the clinical strategy that may improve the clinical status of persons with general health issues and certain behavioral or mental health conditions.
Rating: Established *Evidence*: E, L

Patient Safety, Privacy, and Advocacy

Patient Safety

Recommendation (Unchanged)
Patient safety encompasses the entire spectrum of care offered by the chiropractor. Consequently, it is important to define at the onset the nature of the practice as well as the limits of care to be offered. Minimally this should include a "Terms of Acceptance" document between the practitioner and the patient. Additionally, all aspects of clinical practice should be carefully chosen to offer the patient the greatest advantage with the minimum of risk.
Rating: Established *Evidence*: E, L

Patient Privacy

Recommendation (Unchanged)
Respecting patients' right of privacy has always been both an ethical and a legal duty. New federal regulations place specific, enforceable obligations on most chiropractors and their employees. Knowledge of and compliance with these regulations is essential in order to remain in practice.
Rating: Established *Evidence*: E, L

Patient Advocacy

Recommendation (Unchanged)
Patient advocacy is an important part of advancing safety, efficacy, and utilization of chiropractic services. Effective patient advocacy programs promote quality, safety, appropriateness of service, support patient choice of adjustive care, and appropriateness of referrals inside and outside the profession.
Rating: Established *Evidence*: E, L

Professional Development

Recommendation (Unchanged)
The science, art, and philosophy of chiropractic, and hence its practice, continues to expand in understanding and development. Continuing professional development, as in all responsible health professions, is a necessary component of maintaining a high standard for both the practitioner and the profession. Continuing development should be directed to areas germane to each individual practice, including, but not limited to, credentialing, continuing education programs, participation in professional organizations, technique protocols and application, radiographic and other imaging, instrumentation, philosophy, research, practice liability issues, legal issues, and ethics. Since all state licensing jurisdictions are ultimately responsible for patient health and safety, these guidelines recommend that all subjects congruent with state law be considered appropriate for continuing education credits in respective states.
Rating: Established *Evidence*: E, L

Definitions:

Ratings

Established. Accepted as appropriate for use in chiropractic practice for the indications and applications stated.

Investigational. Further study is warranted. Evidence is equivocal or insufficient to justify a rating of "established."

Inappropriate. Insufficient favorable evidence exists to support the use of this procedure in chiropractic practice.

Categories of Evidence

E: Expert opinion based on clinical experience, basic science rationale, and/or individual case studies. Where appropriate, this category includes legal opinions.

L: Literature support in the form of reliability and validity studies, observational studies, "pre-post" studies, and/or multiple case studies. Where appropriate, this category includes case law.

C: Controlled studies, including randomized and non-randomized clinical trials of acceptable quality.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Subluxation

Guideline Category

Diagnosis

Evaluation

Management

Treatment

Clinical Specialty

Chiropractic

Intended Users

Chiropractors

Guideline Objective(s)

To provide the doctor of chiropractic with a "user friendly" compendium of recommendations based upon the best available evidence

Target Population

All patients who are candidates for chiropractic care

Interventions and Practices Considered

1. Case history
2. Chiropractic examination
3. Instrumentation
    - Postural analysis
    - Bilateral and four-quadrant weight scales
    - Moire contourography
    - Inclinometry/goniometry/algometry
    - Current perception threshold (CPT) testing
    - Electroencephalography (EEG)
    - Somatosensory evoked potentials (SSEP)
    - Skin temperature instrumentation
    - Surface electromyography

    - Manual muscle testing
    - Questionnaires
    - Heart rate variability
    - Computer assisted differential spinal compliance
4. Radiographic and other imaging
    - Plain film radiography
    - Videofluoroscopy
    - Magnetic resonance (MR) imaging
    - Computed tomography (CT)
    - Spinal ultrasonography
    - Radioisotope scanning (nuclear medicine studies)
    - Radiographic digitizing analysis
5. Clinical impression and assessment
6. Reassessment and outcomes assessment, including record keeping
7. Adjustive care
8. Duration of care
9. Chiropractic care of children and pregnant women
10. Concerns for patient well-being, safety, privacy, and advocacy
11. Continued professional development

Major Outcomes Considered

- Detection and correction or stabilization of vertebral subluxation(s)
- Recovery time
- Total cost

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

The databases searched include PubMed, Manual, Alternative and Natural Therapy Index System (MANTIS), Cumulative Index to Nursing and Allied Health Literature (CINAHL), ScienceDirect.com and Medscape.com for the years 2008 through 2013. All members of the guidelines committee searched the databases using a list of keywords. In particular, literature applicable to the headings within the guidelines such as pediatric chiropractic, pregnancy and chiropractic, etc., was sought. Chiropractic and the nervous system literature was a focus for this update. Search terms included chiropractic pediatrics, chiropractic and pregnancy, chiropractic and nervous system, sensory afferents and chiropractic, chiropractic x-rays, chiropractic and wellness, brain function and chiropractic and chiropractic case studies.

Relevant articles were added to a Google Docs file. This file was then used by students of a chiropractic college to pull the article, photocopy it or download it into a Portable Document Format (PDF) file. The PDF files were then uploaded to Google Docs at which point they were organized into the chapter subheadings of the guidelines. The articles were read, reviewed and assessed for relevance for the update.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Expert Consensus

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Categories of Evidence

E: Expert opinion based on clinical experience, basic science rationale, and/or individual case studies. Where appropriate, this category includes legal opinions.

L: Literature support in the form of reliability and validity studies, observational studies, "pre-post" studies, and/or multiple case studies. Where appropriate, this category includes case law.

C: Controlled studies, including randomized and non-randomized clinical trials of acceptable quality.

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review

Description of the Methods Used to Analyze the Evidence

Not stated

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

The 4th Edition of Clinical Practice Guidelines "Subluxation Chiropractic Practice" Guidelines were developed by the Council on Chiropractic Practice (CCP) Workgroup between January 2012 and September 2013.

Similar to the 2003 and 2008 review, the 2013 review process was a literature search review to update sections with current research and the development of a new definition of subluxation to reflect the current research.

The CCP has developed practice guidelines for subluxation with the active participation of field doctors, consultants, seminar leaders, and technique experts. In addition, the Council has utilized the services of interdisciplinary experts in the Agency for Health Care Policy and Research (AHCPR), guidelines development, research design, literature review, law, clinical assessment, chiropractic education, and clinical chiropractic.

The Council additionally included consumer representatives at every stage of the process and had individuals participating from several major chiropractic political and research organizations, chiropractic colleges and several other major peer groups.

Rating Scheme for the Strength of the Recommendations

Ratings

Established. Accepted as appropriate for use in chiropractic practice for the indications and applications stated.

Investigational. Further study is warranted. Evidence is equivocal or insufficient to justify a rating of "established."

Inappropriate. Insufficient favorable evidence exists to support the use of this procedure in chiropractic practice.

Cost Analysis

Cost-effectiveness of Chiropractic Services

Studies suggest that chiropractic, when implemented broadly, would result in significant savings of health care dollars. Substantial health benefits and cost savings to the employer are documented when chiropractic benefits are added to the employee benefits package.

One of the earliest and best estimates of the potential savings with chiropractic comes from a 1996 study by Stano and Smith. Their study compares health insurance payments and patient utilization patterns for episodes of care for common lumbar and low back conditions treated by chiropractic vs. medical providers. Using 2 years of insurance claims data, this study examines 6,183 patients who had episodes with medical or chiropractic first-contact providers. Multiple regression analysis, to control for differences in patient, clinical, and insurance characteristics, indicates that total insurance payments were substantially greater for episodes with a medical first-contact provider. The mean total payment when doctors of chiropractic (DC) were the first providers was $518, whereas the mean payment for cases in which a medical doctor (MD) was the first provider was $1,020 (i.e., almost a 50% cost savings when chiropractors are part of the health team).

Several years later, a ground breaking randomized clinical trial (RCT) evaluated the financial impact of provider assignment in the management of neck pain. Patients who saw general practitioners for neck pain were randomly allocated to manual therapy (spinal mobilization), physiotherapy (mainly exercise) or general practitioner care (counseling, education and drugs). Throughout this 52-week study, patients rated their perceived recovery, intensity of pain and functional disability. Manual therapy proved to be the most effective treatment for neck pain. The clinical outcome measures showed that manual therapy resulted in faster recovery than physiotherapy and general practitioner care. While achieving this superior outcome, the total costs of the manual therapy-treated patients were about one-third the cost of physiotherapy or general practitioner (MD) care.

Refer to the original guideline document for additional information of the growing literature supporting the cost-effectiveness of chiropractic across the various third-party payers in the United States (Medicare, State Workman's Compensation, Private insurance) and Internationally.

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

Following the development of the guidelines and the construction of a draft of the final recommendations, the guidelines were reviewed by over 100 peer reviewers. These reviewers were chosen based on several characteristics (see Table 3 in the original guideline document for more information).

The final draft of the guidelines revision was placed in a secure on line Forum where reviewers were required to provide a LOGON and PASSWORD to enter and access the draft. Once the individual reviewed the draft they then filled out an on line form with any recommendations or changes. Their response was immediately routed to the Project Manager for review and any needed action. Recommendations for additions or changes to the draft based on this review were then circulated electronically to the Panel for feedback. Other than an Assistant to the Project Manager no individual received remuneration for work performed on behalf of the Council to develop these guidelines.

Evidence Supporting the Recommendations

References Supporting the Recommendations

Adair IV, Van Wijk MC, Armstrong GW. Moire topography in scoliosis screening. Clin Orthop Relat Res. 1977 Nov-Dec;(129):165-71. PubMed

Ardran GM, Coates R, Dickson RA, Dixon-Brown A, Harding FM. Assessment of scoliosis in children: low dose radiographic technique. Br J Radiol. 1980 Feb;53(626):146-7. PubMed

Association of Chiropractic Colleges. Association of Chiropractic Colleges paradigm statement. [internet]. Bethesda (MD): Association of Chiropractic Colleges (ACC); 1996

Barge FH. Diagnosis and responsible doctoring. Todays Chiropr. 1998 Sep-Oct;26(5):110-112.

Barge FH. Diagnosis-Is there a middle ground?. Todays Chiropr. 1998 Jul-Aug;27(4):104-105.

Burke EJ, Glick D, Grostic J, et al. Validity of selected measures of the DDSSEP protocol: a factor analytic approach. J Manipulative Physiol Ther. 1994;17(4):273.

Caputo LA, Cusimano MD, Steiman I. A Study of the Frequency of Delayed Diagnosis of Neurological Conditions by Primary Contact Health Care Providers. J Chiropr Edu. 1997 Mar;10(4):81-86.

Cote P, Kreitz BG, Cassidy JD, Thiel H. The validity of the extension-rotation test as a clinical screening procedure before neck manipulation: A secondary analysis. J Manipulative Physiol Ther. 1996;19(3):159-64. PubMed

Damron DG. A retrospective consecutive case analysis of pretreatment and comparative static radiological parameters following chiropractic adjustments. J Manipulative Physiol Ther. 1991 Jun;14(5):334-6. PubMed

Deyo RA, Rainville J, Kent DL. What can the history and physical examination tell us about low back pain?. JAMA. 1992 Aug 12;268(6):760-5. [64 references] PubMed

Fischer AA. Pressure threshold meter: its use for quantification of tender spots. Arch Phys Med Rehabil. 1986 Nov;67(11):836-8. PubMed

Fischer AA. Tissue compliance meter for objective, quantitative documentation of soft tissue consistency and pathology. Arch Phys Med Rehabil. 1987 Feb;68(2):122-5. PubMed

Hospers LA, Sweat RW, Hus L, et al. Response of a three year old epileptic child to upper cervical adjustment. Todays Chiropr. 1987;15(16):69-76.

Hsieh CY, Pringle RK. Range of motion of the lumbar spine required for four activities of daily living. J Manipulative Physiol Ther. 1994 Jul-Aug;17(6):353-8. PubMed

Injeyan HS, Gotlib AC, Crawford JP. The clinical laboratory in chiropractic practice: what tests to order and why?. J Can Chiropr Assoc. 1997 Dec;41(4):221-230.

Jamison J. Chiropractic as conventional health care. J Aust Chiropractors Assoc. 1989;15(2):55-59.

Janse J. Chiropractic and children. J Can Chiropr Assoc. 1979;23(3)

Jansen RD, Nansel DD, Slosberg M. Normal paraspinal tissue compliance: the reliability of a new clinical and experimental instrument. J Manipulative Physiol Ther. 1990 Jun;13(5):243-6. PubMed

Kendal FP, McCreary EK, Provance PG, Rodgers MM, Romani WA. Muscles, testing and function with posture and pain. 4th ed. Baltimore (MD): Williams & Wilkins; 2005.

La Francis ME. A chiropractic perspective on atlantoaxial instability in Down's syndrome. J Manipulative Physiol Ther. 1990 Mar-Apr;13(3):157-60. [22 references] PubMed

Lea RD, Gerhardt JJ. Range-of-motion measurements. J Bone Joint Surg Am. 1995 May;77(5):784-98. [172 references] PubMed

Leach RA. The chiropractic theories: a synopsis of chiropractic research. 2nd ed. Baltimore (MD): Williams & Wilkins; 1986.

Leboeuf C, Gardner V, Carter A, et al. Chiropractic examination procedures: A reliability and consistency study. J Aust Chiropractors Assoc. 1989;19(3):101-104.

Maigne JY, Aivaliklis A, Pfefer F. Results of sacroiliac joint double block and value of sacroiliac pain provocation tests in 54 patients with low back pain. Spine (Phila Pa 1976). 1996 Aug 15;21(16):1889-92. PubMed

McCarthy KA. Improving the clinician's use of orthopedic testing: an application to low back pain. Top Clin Chiropract. 1994;1(1):42.

McMillin AD. The role of diagnostic instrumentation in the evaluation of spine trauma. Top Clin Chiropract. 1998;5(3):46-53.

Mior SA, McGregor M, Schut B. The role of experience in clinical accuracy. J Manipulative Physiol Ther. 1990 Feb;13(2):68-71. PubMed

Morrison R. Manual muscle testing. Fame Bright Publishing; 2012.

Nilsson N. Measuring passive cervical motion: a study of reliability. J Manipulative Physiol Ther. 1995 Jun;18(5):293-7. PubMed

Osterbauer PJ, Fuhr AW, Hildebrandt RW. Mechanical force, manually assisted short lever chiropractic adjustment. J Manipulative Physiol Ther. 1992 Jun;15(5):309-17. PubMed

Palmer BJ. The science of chiropractic. Davenport (IA): Palmer School of Chiropractic; 1920.

Palmer DD. The science, art and philosophy of chiropractic. Portland (OR): Palmer DD; 1910.

Plaugher G, Cremata EE, Phillips RB. A retrospective consecutive case analysis of pretreatment and comparative static radiological parameters following chiropractic adjustments. J Manipulative Physiol Ther. 1990 Nov-Dec;13(9):498-506. PubMed

Potter NA, Rothstein JM. Intertester reliability for selected clinical tests of the sacroiliac joint. Phys Ther. 1985 Nov;65(11):1671-5. PubMed

Practicing chiropractors' committee on radiology protocols. [internet]. Elko (NV): PCCRP.org; 2006

Ressel OJ. Chiropractic and children: A rationale for care. Intl Rev Chiro. 1986;42:44-50.

Rhudy T, Sandefur M, Burk J. Interexaminer/intertechnique reliability in spinal subluxation assessment: a multifactorial approach. Am J Chiropr Med. 1988;1(3):111-114.

Rosen M. Short lever specific contact procedures. Trans Consortium Chiropr Res. 1991;:261-4.

Sandefur R. Interexaminer/intertechnique reliability in spinal subluxation assessment: A multifactorial approach. Am J Chiropr Med. 1989;2(3):131.

Sawyer CE, Bergmann TF, Good DW. Attitudes and habits of chiropractors concerning referral to other health care providers. J Manipulative Physiol Ther. 1988 Dec;11(6):480-3. PubMed

Schneier M, Burns R. Atlanto-occipital hypermobility in sudden infant death syndrome. J Chiropr Res and Clin Inves. 1991;7(2):33-38.

Seventh report to the President & Congress on the status of health personnel. Washington (DC): U.S. Department of Health and Human Services; 1990.

Souza T. Which orthopedic tests are really necessary?. In: Lawrence DJ, editor(s). Advances in chiropractic. Volume 1. Chicago (IL): Mosby; 1994.

Terrett A. It is more important to know when not to adjust. Chiropr Techniq. 1990;2(1):1-9.

Terrett AG. Vertebrobasilar stroke following manipulation. Des Moines (IA): NCMIC; 1996.

Upledger JE. The reproducibility of craniosacral examination findings: a statistical analysis. J Am Osteopath Assoc. 1977 Aug;76(12):890-9. PubMed

van den Hoogen HM, Koes BW, van Eijk JT, Bouter LM. On the accuracy of history, physical examination, and erythrocyte sedimentation rate in diagnosing low back pain in general practice. A criteria-based review of the literature. Spine (Phila Pa 1976). 1995 Feb 1;20(3):318-27. PubMed

Vear H. The role of chiropractic in preventive health care. J Can Chiropr Assoc. 1974;18(4):10-13.

Wagnon R. Finally, an objective instrument for assessing the effects of chiropractic intervention. Am Chiropr. 1991;13(2):20-22.

Walsh MJ. Evaluation of orthopedic testing of the low back for nonspecific lower back pain. J Manipulative Physiol Ther. 1998 May;21(4):232-6. PubMed

Webster LL. Subluxation at birth and early childhood. Stone Mountain (GA): Int'l Chiro Pediatric Assoc; 1989.

Wheeler JD. Diagnosis: poverty complex. Am Chiropr. 1998 May-Jun;20(3):14.

Whittingham W, Ellis WB, Molyneux TP. The effect of manipulation (toggle recoil technique) for headaches with upper cervical joint

dysfunction: a pilot study. J Manipulative Physiol Ther. 1994 Jul-Aug;17(6):369-75. PubMed

Williamson S. Effect of unilateral spinal adjustments on goniometrically-assessed cervical lateral-flexion end-range asymmetries in otherwise asymptomatic subjects. J Manipulative Physiol Ther. 1990 Sep;13(7):418. PubMed

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate diagnosis and management of subluxation in chiropractic practice

Potential Harms

Considerable visibility and public scrutiny surrounds possible risks associated with Spinal Adjustment and Manipulation. Non-serious side effects are relatively common and may consist of localized discomfort, headache, or fatigue that resolves within 24 to 48 hours. The concern raised by scientific and popular media reports in the United States and Canada are that chiropractic "manipulation" of the cervical spine is associated with stroke. However, solid scientific evidence of a causal relationship between such adverse events and the "manipulation" is lacking.

Qualifying Statements

Qualifying Statements

- The purpose of these guidelines is to provide the doctor of chiropractic with a "user friendly" compendium of recommendations based upon the best available evidence. It is designed to facilitate, not replace, clinical judgment.
- The most compelling reason for creating, disseminating, and utilizing clinical practice guidelines is to improve the quality of health care. The recommendations made in this guideline are specific to the clinical entity of subluxation and are applicable to the stated goals of the guideline. The recommendations are meant to be flexible based upon each patient encounter and the goals of both the practitioner and the patient being cared for.
- These guidelines are for informational purposes. Utilization of these guidelines is voluntary. They are not intended to replace the clinical judgment of the chiropractor. It is acknowledged that alternative practices are possible and may be preferable under certain clinical conditions. The appropriateness of a given procedure must be determined by the judgment of the practitioner and the needs and preferences of the individual patient.
- It is not the purpose or intent of these guidelines to provide legal advice, or to supplant any statutes, rules, and regulations of a government body having jurisdiction over the practice of chiropractic.
- These guidelines address subluxation chiropractic practice, and do not purport to include all procedures which are permitted by law in the practice of chiropractic. Lack of inclusion of a procedure in these guidelines does not necessarily mean that the procedure is inappropriate for use in the practice of chiropractic.
- Participation in the guidelines development process does not necessarily imply agreement with the final product. This includes persons who participated in the technique conference, leadership conference, open forum, and peer review process. Listing of names acknowledges participation only, not necessarily approval or endorsement. The guidelines reflect the consensus of the panel, which gave final approval to the recommendations.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Council on Chiropractic Practice. Subluxation chiropractic practice. 4th ed. Temecula (CA): Council on Chiropractic Practice; 2013. 215 p. [2766 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

1998 (revised 2013)

Guideline Developer(s)

Council on Chiropractic Practice - Nonprofit Organization

Source(s) of Funding

Council on Chiropractic Practice

Guideline Committee

Council on Chiropractic Practice Guidelines Committee

Composition of Group That Authored the Guideline

Committee Members: Dr. Alan D. Jenks (*Chair*); Dr. Richard Eugene Aplin; Dr. Richard George Barwell; Dr. Robert H. I. Blanks; Dr. Susan M. Brown; Dr. John Davila; Dr. Peter J. Kevorkian; Dr. John F. Markham; Dr. Terry A. Rondberg; Dr. William Martin Sloane; Dr. Kenneth James Vinton; Dr. David Chadwick Walls-Kaufman; Dr. Julian Katherine Wetterlin; Dr. Robert Wiegand

Financial Disclosures/Conflicts of Interest

Not stated

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Council on Chiropractic Practice. Vertebral subluxation in chiropractic practice. Chandler (AZ): Council on Chiropractic Practice; 2008. 318 p.

Guideline Availability

Electronic copies: Available in Portable Document Format (PDF) from the Council on Chiropractic Practice Web site .

Availability of Companion Documents

None available

Patient Resources

None available

NGC Status

This summary was completed by ECRI on November 1, 1998. The information was verified by the guideline developer on January 5, 1999. This summary was updated by ECRI on June 11, 2004. The information was verified by the guideline developer on July 8, 2004. This NGC summary was updated by ECRI Institute on April 24, 2009. This NGC summary was updated by ECRI Institute on January 6, 2014. The updated information was verified by the guideline developer on February 28, 2014.

Copyright Statement

Disclaimer

NGC Disclaimer

The National Guideline Clearinghouseâ„¢ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC

Inclusion Criteria which may be found at http://www.guideline.gov/about/inclusion-criteria.aspx.

NGC, AHRQ, and its contractor ECRI Institute make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI Institute, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.